

was concerned that the parties were engaging in “slot hoarding,” in part intending to keep new entrants from the market. The DOJ noted that the parties did not need the slots and that other entrants would use them more efficiently, thereby providing a net benefit for consumers.⁴⁸

C. The Joint Venture Arrangements Suggest Additional Injury to Competition

The fact that Verizon Wireless and Assignors entered into joint marketing agreements simultaneous with these Transactions increases the likelihood that the Transactions violate the Clayton Act (and potentially the Sherman Act), and are thus against the public interest. Despite Applicants’ contention that these agreements are unrelated, the totality of this collaboration must be taken into consideration to fully understand the competitive effects. While Applicants attempt to argue that spectrum acquisition is technically an independent transaction, the simultaneous nature of these two very significant agreements suggests that the overall context of the bargains among the Applicants must be considered in determining the actual effects on competition and what is in the public interest.

At least in effect, this has all the hallmarks of a pure horizontal allocation of markets. From the limited information available, it appears as though Verizon, the majority owner of

⁴⁸ In a similar case, the FTC filed suit against Mylan Laboratories, finding harm to competition in certain exclusive supplier contracts blocking access to generic manufacturers and enabling Mylan to increase prices. *FTC v. Mylan Laboratories*, 62 F. Supp. 2d 25 (D.D.C. 1999). See also *In re Lorazepam & Clorazepate Antitrust Litig.*, 467 F. Supp. 2d 74 (D.D.C. 2006) (involving several insurance companies and health plans that opted out of a class action settlement and prevailed against Mylan). Likewise, in the merger of NBC Universal and Comcast Corp., the DOJ required the parties, *inter alia*, to provide competitors with access to NBCU content because the DOJ determined that such content was necessary to compete effectively in the market. *United States v. Comcast*, Final Judgment, No. 1:11-cv-00106 (D.D.C. Sept. 1, 2011), available at <http://www.justice.gov/atr/cases/f274700/274713.pdf>. As a result, the DOJ deemed divestitures necessary to protect consumers from future competitive harm. See also *United States v. Ticketmaster Entertainment Inc.*, Final Judgment, No. 1:10-cv-00139 (D.D.C. Jul. 30, 2010), available at <http://www.justice.gov/atr/cases/ticket.htm> (deeming Ticketmaster’s long-term exclusive contracts with venues as a limitation on access to a necessary element of the industry, and therefore requiring a number of divestitures and prohibiting certain conduct to address this foreclosure).

Verizon Wireless, has agreed (tacitly if not expressly) to halt its extensive efforts to expand into the cable business and the cable companies have, in turn, traded their control of valuable spectrum in exchange for this protection of their cable markets. It has been publicly reported that, coincident with acquiring the cable companies' spectrum, thereby eliminating potential new competition in mobile wireless, Verizon ended its FiOS build out plans and terminated its agreement to resell satellite television.⁴⁹ This series of acts appears to limit Verizon's activity as a potential competitor in the video market and limit the cable companies' role as potential competitors in the wireless market, while at the same time foreclosing competing providers from one of the only available sources of spectrum. As a result of this "triple play," competition in both markets will be substantially reduced. The antitrust laws have long condemned such agreements, even among potential competitors.⁵⁰

These concerns are exacerbated by the secrecy shrouding the terms of the agreements. Without the details of the numerous parallel deals, the conclusion that this is an improper market allocation cannot be dismissed. Supporting this conclusion is the fact that Verizon Wireless does not plan to use this spectrum in the near term and has significant incentives to keep it from competitors who would deploy it more readily.⁵¹

While the spectrum acquisition independently impairs competition, the totality of these agreements suggests that the injury to competition extends even further through market allocation – an agreement by Verizon Wireless not to compete against the sellers in exchange for their sale of the spectrum and corresponding implied promise not to compete against Verizon Wireless

⁴⁹ Neal Gompa, *Verizon's Play for Spectrum and Why You Should Be Worried*, ExtremeTech.com (Dec. 23, 2011), available at <http://www.extremetech.com/mobile/110359-verizons-play-for-spectrum-and-why-you-should-be-worried>.

⁵⁰ See, e.g., *Palmer v. BRG of Ga., Inc.*, 498 U.S. 46, 49-50 (1990) (per curiam); *United States v. Topco Assocs.*, 405 U.S. 596, 608 (1972).

⁵¹ See Section V, below.

in mobile services. Extending the competitive analysis beyond the limited suggestion in Applicants' public interest statement, it is clear that the Transactions would substantially lessen competition in violation of the Clayton Act. And, as a violation of the Clayton Act is not in the public interest, the Commission should not allow the Transactions to proceed.

IV. THE SPECTRUM SCREEN SHOULD BE ADJUSTED TO REFLECT CURRENT AND NEAR-TERM CONDITIONS

For the reasons discussed in Section III, the Commission should not rely solely on a spectrum screen to determine which markets require review for potential anti-competitive effects. To the extent that the Commission does use a screen, however, it must update its methodology to be more effective in identifying markets in which "no potential" for such effects exists, since the current approach disregards economic reality.⁵² Therefore, if the Commission is to use a screen at all, it should re-examine its approach and modify the screen parameters to be more useful.

In analyzing mobile spectrum concentration, the Commission includes only those spectrum bands that are both "suitable" and "available" for mobile telephony/broadband service uses in the "near-term." Suitability is based on "[i] whether the spectrum is capable of supporting mobile services given its physical properties and state of equipment technology, [ii] whether the spectrum is licensed with a mobile allocation and corresponding service rules, and [iii] whether the spectrum is committed to another use that effectively precludes its use for the relevant mobile service."⁵³

Spectrum that is suitable must also be available for use in the near term. The Commission, consistent with the revised merger guidelines, has modified its spectrum screen analysis to

⁵² Chevalier Decl. at para. 24; Declaration of Peter Cramton at paras. 11-14 (attached hereto as Exhibit C) ("Cramton Decl.").

⁵³ *AT&T-Qualcomm Order* at para. 38.

“consider the spectrum to be a relevant input if it will meet the criteria for suitable spectrum in the near term”⁵⁴ based upon the revised 2010 DOJ-FTC guidelines.⁵⁵

The Commission adopted a screen in 2001 with the express recognition that its analysis of particular transactions needs to reflect market conditions as they may change over time.⁵⁶ As the Commission envisioned, the market has changed considerably since the screen was first applied in 2004, and in addition to adjusting the spectrum input market and the weighting of the various spectrum for purposes of the Commission’s spectrum concentration analysis as discussed above, the Commission should also evaluate whether to include in the screen analysis only spectrum that is suitable and available in the near-term for both mobile telephony *and* mobile broadband services. The Commission has adopted a strong policy advocating for the expansion

⁵⁴ *Id.* at para. 38, n.117.

⁵⁵ U.S. Department of Justice and Federal Trade Commission, *Horizontal Merger Guidelines*, § 9.1 (2010), available at <http://www.justice.gov/atr/public/guidelines/hmg-2010.pdf> (“In order to deter the competitive effects of concern, entry must be rapid enough to make unprofitable overall the actions causing those effects.”). While Applicants suggest that the two-year time frame is still the applicable period for analysis, the Commission clarified that the new DOJ-FTC guidelines would apply to this type of review. *AT&T-Qualcomm Order* at para. 38, n.117.

⁵⁶ *2000 Biennial Regulatory Review, Spectrum Aggregation Limits for Commercial Mobile Radio Services*, Report and Order, 16 FCC Rcd 226688, at para. 50 (2001). The current “spectrum screen” approach dates from 2004, when the Commission used it to focus its analysis of the proposed AT&T/Cingular combination only on markets “in which the level of spectrum aggregation [as a result of the combination] will exceed what is present in the marketplace today.” In that case, it set the screen level at 70 MHz. *Applications of AT&T Wireless Services, Inc. and Cingular Wireless Corporation*, WT Docket No. 04-70, Memorandum Opinion and Order, 19 FCC Rcd 21522, at para. 109 (2004) (“*AT&T Wireless-Cingular Order*”). In subsequent decisions, however, it applied different trigger levels (95 MHz and later 145 MHz) based on changes in the spectrum found to be available and suitable for mobile services. See *Fifteenth Annual Report* at para. 281. Thus, the spectrum screen has always been subject to review and adjustment on a case-by-case basis. Most recently, in *AT&T-Qualcomm*, the Commission stated clearly that it was not bound by past applications of the spectrum screen, but could consider a variety of factors as part of its “case-by-case analysis” of whether a transaction would have adverse competitive effects, and expanded its market analysis to assess the competitive impacts of the transaction in a national market. *AT&T-Qualcomm Order* at paras. 35, 50-51.

and adoption of broadband services throughout the country,⁵⁷ and in the arena of mobile services specifically, the Commission has found that “the provision of mobile broadband service is becoming increasingly critical to competition in the mobile marketplace.”⁵⁸ Due to the increasing prevalence and demand for mobile broadband services, and especially for 4G broadband, the Commission has announced it henceforth will use a “combined ‘mobile telephony/broadband services’ product market” in transaction reviews.⁵⁹ Accordingly, the Commission should consider whether the “availability” and “suitability” criteria should be applied only to spectrum that is available and suitable to serve that combined market, and perhaps other adjustments as appropriate to its forward-looking review of the competitive landscape.

A. The Screen Should Exclude Spectrum That is Not “Suitable” and “Available” in the “Near Term”

Consistent with the standard described above, in analyzing the Transactions, the Commission should exclude spectrum that it can not rationally conclude will likely be suitable and available for retail mobile voice and broadband in the near term. In particular, it should exclude the Upper 700 MHz D Block and the block of Specialized Mobile Radio (“SMR”) 800 MHz spectrum dedicated to public safety use. Further, the Commission should reject the Applicants’ request to modify the screen to include certain BRS, EBS, MSS/ATC, and WCS spectrum,⁶⁰ which are neither available nor suitable. Applicants also asked the Commission to consider the PCS G Block (10 MHz), and since that spectrum is now licensed and available for broadband

⁵⁷ *National Broadband Plan* at 9 (adopting goals for providing affordable access to at least 100 million U.S. households and “lead[ing] the world in mobile innovation, with the fastest and most extensive wireless network of any nation”).

⁵⁸ *AT&T-Qualcomm Order* at para. 32.

⁵⁹ *Id.* at para. 33.

⁶⁰ *SpectrumCo Public Interest Statement* at 29-33.

use, T-Mobile does not oppose that request.⁶¹ Incorporating existing market realities into the application of the screening process more realistically calibrates the substantial threat to competition posed by the Transactions.

1. The Commission should exclude the Upper 700 MHz D Block and the SMR 800 MHz spectrum reserved for public safety use

In past decisions, the D Block of the Upper 700 MHz band has been included in the spectrum screen. Last week, however, Congress enacted legislation requiring the Commission to reallocate this block to public safety use.⁶² The 10 MHz D Block is no longer “available” for mobile services, so the 700 MHz spectrum included in the screen calculation should be reduced from 80 to 70 MHz.

Certain SMR spectrum in the 800 and 900 MHz bands is not suitable for commercial mobile services and its inclusion in the screen is therefore unwarranted.⁶³ In the *800 MHz Order*, the Commission determined that there was a serious interference problem in the 800 MHz band caused “by a fundamentally incompatible mix of two types of communications systems:” cellular-architecture multi-cell systems—used by CMRS providers and “noncellular systems—used by public safety” systems.⁶⁴ As a result, it reconfigured the 800 MHz band, separating 14 MHz for use by CMRS in the upper bands (817-824 MHz/862-869 MHz) and 18 MHz (806-815 MHz/851-860 MHz) reserved for public safety, critical infrastructure (CII) and other non-cellular

⁶¹ T-Mobile includes this 10 MHz block in its spectrum screen proposal in section IV.A.3, below.

⁶² H.R. 3630, Middle Class Tax Relief and Job Creation Act of 2012, Sec. 6101 (Feb. 17, 2012).

⁶³ See *Improving Public Safety Communications in the 800 MHz Band*, Report and Order, Fifth Report and Order, Fourth Memorandum Opinion and Order, 19 FCC Rcd 14969 (2004), as amended by Erratum, 19 FCC Rcd 19651 (2004) and Erratum, DA 04-3459 (2004) (“*800 MHz Order*”).

⁶⁴ *800 MHz Order* at para. 2.

systems.⁶⁵ Thus only 14 MHz of this SMR spectrum is suitable and available for commercial broadband service.⁶⁶

The Commission should confirm that the 800 MHz spectrum reserved for public safety use as that spectrum is neither suitable nor available for commercial use to provide cellular mobile voice or broadband, and should reduce the amount of SMR spectrum in the screen from 26.5 MHz to 14 MHz.

2. The Commission should reject the Applicants' request to consider additional spectrum

The Applicants ask the Commission to include in its concentration analysis spectrum that they contend “potentially can be used to provide wireless services.”⁶⁷ The Commission should reject this request. As discussed at page 19 above, the analysis looks to “near term” availability (not merely “potential” availability), and considers the suitability of the spectrum for mobile broadband in addition to mobile voice. Under these criteria, none of the spectrum referenced in the Applicants' request can be added to the screen.

a. BRS/EBS

To date, the Commission has included 55.5 MHz of the BRS spectrum in the screen, but repeatedly has rejected arguments to include additional BRS spectrum due to significant technical barriers that limit the usefulness of these bands for mobile telephony/broadband services.⁶⁸ While the Applicants acknowledge these previous decisions,⁶⁹ they urge a reversal of this policy but have not demonstrated that there are any new technical developments that allow for use of

⁶⁵ *Id.* at para. 11.

⁶⁶ See *AT&T-Qualcomm Order* at para. 14, n.126 (stating that “when conducting competitive analysis in the future, the Commission may decide to include only the 14 megahertz of SMR spectrum suitable and available for mobile broadband services[.]”).

⁶⁷ *SpectrumCo Public Interest Statement* at 29.

⁶⁸ *Verizon Wireless-ALLTEL Order* at para. 65; *Sprint Nextel-Clearwire Order* at para. 70.

⁶⁹ *SpectrumCo Public Interest Statement* at 30.

this spectrum for mobile broadband. The Commission should continue to exclude this spectrum from its screen.

The Commission has also found the EBS bands unsuitable and unavailable for commercial mobile telephony/broadband services.⁷⁰ Just two years ago, Verizon Wireless agreed with that Commission conclusion.⁷¹

Applicants argue that these spectrum bands are now available because Clearwire is providing service using some of the 2.5 GHz spectrum.⁷² There are several glaring flaws in this argument. First, none of the evidence cited by Applicants establishes that Clearwire's use of BRS exceeds the 55.5 MHz of BRS spectrum already in the screen.⁷³ Second, Clearwire started using BRS and EBS to develop mobile services in 2008,⁷⁴ but the Commission afterwards refused to change its treatment of these bands in the screen, including as part of its review of the merger of

⁷⁰ The "primary purpose of EBS is to further the educational mission of accredited public and private schools, colleges and universities" and limitations are placed on any leasing of this spectrum to ensure that it "maintain[s] the primary educational character of services provided using EBS. ... In addition, other elements of the EBS licensing regime, such as its solely site-specific character, ... complicate use of this spectrum for commercial purposes." *Sprint Nextel-Clearwire Order* at para. 71. *See also Application of AT&T Inc. and Dobson Communications Corp. for Consent to Transfer Control of Licenses and Authorizations*, Memorandum Opinion and Order, 22 FCC Rcd 20295, at para. 34 (2007); *Verizon Wireless-ALLTEL Order* at para. 67; *Fifteenth Annual Report* at n.815 ("EBS spectrum, which is licensed to educational institutions and can be leased to commercial operators, is not included in the Commission's spectrum screen when evaluating proposed transactions.").

⁷¹ "While the EBS band may certainly be used to *support* broadband services, including through spectrum leases to commercial providers, licensing in the band is restricted to educational entities, and thus, does not meet the requirement for exclusively licensed, flexible use spectrum that Verizon Wireless believes is critical to support commercial mobile broadband services." Comments of Verizon Wireless on Spectrum for Broadband, NBP Public Notice #6, National Broadband Plan, GN Docket No. 09-47, at 13, n.26 (filed Oct. 23, 2009) (emphasis supplied).

⁷² *SpectrumCo Public Interest Statement* at 30.

⁷³ *See Sprint Nextel-Clearwire Order* at para. 70; *Verizon Wireless-ALLTEL Order* at para. 65.

⁷⁴ *Fifteenth Annual Report* at para. 273.

Clearwire and Sprint-Nextel.⁷⁵ Third, while the Applicants suggest that the Commission has acknowledged Clearwire as a viable competitor, the *Fifteenth Annual Report* actually states that Clearwire is one of several providers that “*could* introduce new competitive constraints at the regional or national level.”⁷⁶ Further, the *Fifteenth Annual Report*’s discussion of EBS was expressly qualified by referencing the past decisions finding this band is not suitable or available for mobile voice and broadband.⁷⁷ In sum, Applicants’ arguments about these bands are not different in any material respect from those the Commission has rejected in the past.

b. MSS/ATC

The Applicants claim that the Commission has already found that MSS/ATC spectrum has the potential to enhance competition for terrestrial mobile wireless services.⁷⁸ In order to fashion this argument the Applicants rely on snippets of Commission statements and ignore the broader context of those statements that lay out the severe problems with the use of MSS/ATC spectrum for mobile terrestrial wireless services. When analyzed carefully and in context, it is clear that MSS/ATC spectrum does not satisfy the Commission’s criteria for inclusion in the screen. Rather, the availability of the MSS/ATC spectrum for wireless broadband is speculative at best, and even if it were to become available, it would not be in the “near-term.” Its inclusion in the screen remains unwarranted.

⁷⁵ See generally *Sprint-Clearwire Order*. The Commission specifically acknowledged that Clearwire was providing service using leased EBS spectrum, but nonetheless refused to consider this spectrum in the screen. *Id.* at paras. 7, 71.

⁷⁶ *Fifteenth Annual Report* at para. 67 (italics added). Interestingly, the Applicants fail to note that the *Fifteenth Annual Report* also identified Cox Communications as a potential new competitor, although this potential competition would be eliminated by the Transactions. *Id.* at para. 72.

⁷⁷ *Fifteenth Annual Report* at para. 281, n.815.

⁷⁸ *SpectrumCo Public Interest Statement* at 31.

As the Commission is well aware, the only *currently authorized* terrestrial use of MSS spectrum is for operations ancillary to the space segment.⁷⁹ LightSquared, an MSS licensee, had obtained a contingent waiver that could have allowed it to provide terrestrial wireless services not required to be integrated with its MSS service.⁸⁰ The International Bureau currently is taking steps to vacate that waiver, however, due to substantial interference concerns raised by the government and the commercial GPS industry, and is also considering revocation of LightSquared's existing ancillary terrestrial authority.⁸¹

In addition, satellite television operator DISH Network is seeking Commission approval of its proposed acquisition of MSS/ATC licensees and spectrum, and a contemporaneous request for a waiver of the rules so that it could provide "terrestrial-only" service.⁸² The waiver request, in particular, has proven controversial, and approval does not appear imminent. Potential obsta-

⁷⁹ See generally, e.g., *Establishing Rules and Policies for Use of Spectrum for Mobile Satellite Services in Upper and Lower L-Band*, Report and Order, 17 FCC Rcd 2704, at paras. 11-20 (2002); *Flexibility for Delivery of Communications by Mobile Satellite Service Providers in 2 GHz Band, The L-band, and the 1.6/2.4 GHz Band, 01-185*, Report and Order and Notice of Proposed Rulemaking, 18 FCC Rcd 1962, 1975, at para. 23 (2003) ("*MSS/ATC Order*") (record demonstrated that use of ATC would allow MSS licensees to "fill[] gaps in the MSS coverage area" and "permit customers in underserved or unserved terrestrial markets to use ATC-enabled MSS handsets when in urban areas or inside buildings.").

⁸⁰ *LightSquared Subsidiary LLC, Request for Modification of its Authority for an Ancillary Terrestrial Component*, Order and Authorization, 26 FCC Rcd 566 (IB 2011) ("*LightSquared Order*").

⁸¹ *International Bureau Invites Comment on NTIA Letter Regarding LightSquared Conditional Waiver*, Public Notice, IB Docket No. 11-109, DA 12-214 (rel. Feb. 14, 2012); Statement from FCC Spokesperson Tammy Sun on Letter from NTIA Addressing Harmful Interference Testing Conclusions Pertaining To LightSquared and Global Positioning Systems (rel. Feb. 14, 2012).

⁸² See *DISH Network Corporation Files to Acquire Control of Licenses and Authorizations Held By New DBSD Satellite Services G.P., Debtor-in-Possession and TerreStar License Inc., Debtor-in-Possession*, Public Notice, 26 FCC Rcd 13018 (2011); *New DBSD Satellite Service G.P., Debtor-in-Possession, and TerreStar Licensee Inc., Debtor-In-Possession, Request For Rule Waivers And Modified Ancillary Terrestrial Component Authority*, Public Notice, 26 FCC Rcd 13011, at 1 (2011) ("*DBSD-TerreStar Public Notice*").

cles that might impact terrestrial use of the S-band have not been fully addressed. For example, it remains unclear whether the proposed network will create interference concerns for adjacent spectrum users, including government earth stations. DISH Network may also opt to continue providing mobile satellite services using S-band spectrum and delay or altogether avoid the development of a terrestrial network if it deems conditions imposed by the Commission in any forthcoming order as unfavorable or onerous. There is currently no obligation to provide terrestrial services using S-band spectrum, and the underlying S-band mobile satellite licenses that DISH Network seeks to acquire are perfected and do not expire until 2024 and 2025, respectively.

Thus, in both instances where the Commission is considering the use of MSS/ATC spectrum for terrestrial mobile services, there is no basis to conclude that such services will be available in the near term. Unless and until the Commission's concerns are resolved, MSS spectrum is limited to serving as a "component of an integrated service offering including Mobile-Satellite Service (MSS)," ⁸³ and therefore is "committed to another use that effectively precludes its uses for the relevant mobile service." ⁸⁴

c. WCS

WCS operates adjacent to the Satellite Digital Audio Radio Service ("SDARS") and technical limitations to avoid interference prevented use of this spectrum for mobile services. In May 2010, the Commission revised the rules to protect SDARS but allow mobile operations. ⁸⁵ AT&T has shown that under the new technical rules the spectrum could not be used for mobile broadband because

⁸³ *DBSD-Terrestar Public Notice* at 1.

⁸⁴ *AT&T-Qualcomm Order* at para. 38.

⁸⁵ *Fifteenth Annual Report* at para. 25.

the power spectral density limit included in the rules will increase the cost of network deployment markedly by requiring a substantial increase in the number of cell sites. At the same time, it will reduce the quality, throughput, and efficiency of mobile wireless WCS networks. In addition, the mobile and portable device duty-cycle limits will substantially limit uplink throughput, constrain video applications, interactive gaming, and other uplink-intensive services.... Furthermore, the severe restrictions on C and D Block licenses make them all but useless for any significant broadband service.⁸⁶

Applicants claim that the *Fifteenth Annual Report* found that “WCS spectrum is suitable to provide, and has the potential to compete with, mobile services.”⁸⁷ But the *Fifteenth Annual Report* does not address the concerns raised by AT&T and other WCS interests in their petitions for reconsideration.⁸⁸ Applicants have not provided any technical or other rationale negating the industry’s concerns that WCS is not suitable for mobile telephony/broadband use.

3. Summary of proposed adjustments to screen

Based on the preceding sections, T-Mobile suggests that the spectrum considered available and suitable for mobile telephony and broadband services be adjusted as shown in Table 2 below:

⁸⁶ See *Amendment of Part 27 of the Commission’s Rules to Govern the Operation of Wireless Communications Services in the 2.3 GHz Band*, AT&T Petition for Partial Reconsideration, WT Docket No. 07-293, at 13-14 (filed Sept. 1, 2010) (“*AT&T Petition on Part 27*”); see also *Applications of AT&T Inc. and Deutsche Telekom AG for Consent To Assign or Transfer Control of Licenses and Authorizations*, Description of Transaction, File No. 0004669383, Description of Transaction, Public Interest Showing, and Related Demonstrations at 49, n.48 (filed April 21, 2011).

⁸⁷ *SpectrumCo Public Interest Statement* at 32 (citing *Fifteenth Annual Report* at para. 276 (stating that the revised rules “will enable WCS licensees to offer mobile broadband services”)).

⁸⁸ See *Amendment of Part 27 of the Commission’s Rules to Govern the Operation of Wireless Communications Services in the 2.3 GHz Band*, WT Docket No. 07-293, AT&T Petition for Partial Reconsideration (filed Sept. 1, 2010); Petition of the WCS Coalition for Partial Reconsideration (filed Sept. 1, 2010); Petition For Reconsideration of Green Flag Wireless, LLC, CWC License Holding, Inc., and James McCotter (filed Sept. 1, 2010).

Table 2

Band	MHz (previous)	MHz (proposed)
Cellular	50	50
700 MHz	80	70
SMR	26.5	14
PCS	120	130
AWS-1	90	90
BRS	55.5	55.5
Total	422	409.5

Accordingly, if no other changes were made, the current spectrum screen threshold of 145 MHz would have to be adjusted downward by approximately 4-5 MHz to reflect the smaller base. For the reasons discussed in the following section, however, that would not be sufficient to cure the deficiencies of the screen analysis.

B. The Commission Should Weight Spectrum Based on Market Values

The Commission historically has treated all spectrum the same when determining whether a market should be subjected to additional competitive scrutiny. Recently, however, the Commission acknowledged that this does not reflect technical and market realities. T-Mobile agrees and urges that the Commission adopt a spectrum screen that weights spectrum based on estimated market values.

Not all spectrum is equal when it comes to propagation characteristics and building penetration.⁸⁹ The Commission has found it “well established that lower frequency bands – such as the 700 MHz and Cellular bands – possess more favorable intrinsic spectrum propagation characteristics than spectrum in higher bands.”⁹⁰ As a result, “‘low-band’ spectrum can provide superior coverage over larger geographic areas, through adverse climates and terrain, and inside

⁸⁹ Cramton Decl. at para. 16 .

⁹⁰ *Fifteenth Annual Report* at para. 292.

buildings and vehicles.”²¹ Likewise, DOJ has stated that “because of the characteristics of PCS spectrum, providers holding this type of spectrum generally have found it less attractive to build out in rural areas.”²²

The different physical characteristics of spectrum have direct economic impacts. “[L]ow-band spectrum can provide the same geographic coverage, at a lower cost, than higher-frequency bands, such as the 1.9 GHz PCS band, the 1.7/2.1 GHz AWS band, and the 2.5 GHz band.”²³ Thus, a “licensee that exclusively or primarily holds spectrum in a higher frequency range generally must construct more cell sites (at additional cost) than a licensee with primary holdings at a lower frequency in order to provide *equivalent* service coverage, particularly in rural areas.”²⁴

These substantial differences in the cost and burden of utilizing spectrum are reflected in spectrum valuations, both here and in other countries. For example, in the 2008 auction of 700 MHz spectrum, the average price was \$1.28 per MHz-pop – more than twice the average of \$0.54 per MHz-pop for AWS spectrum auctioned in 2006.²⁵ In 2010 auctions in Germany and

²¹ *Id.* at para. 292 (“The Commission has also noted, in particular with respect to 700 MHz band spectrum, that lower frequency spectrum has ‘excellent propagation’ characteristics that, in contrast to higher frequency bands such as PCS and AWS spectrum, ‘make it ideal for delivering advanced wireless services to rural areas.’”).

²² *U.S. v. Verizon and Alltel*, Competitive Impact Statement, Case No. 08-cv-1878, at 6 (D.D.C. Oct. 30, 2008).

²³ *Fifteenth Annual Report* at para. 293. This is not meant to imply that higher-frequency spectrum is without value, just that there are differences in value among different bands of spectrum. *Id.* at para. 296.

²⁴ *Id.* at para. 293 (emphasis added). The National Institute of Standards and Technology (NIST) developed a propagation model comparing the 700 MHz, 1.9 GHz, and 2.4 GHz spectrum bands and concluded that the favorable propagation characteristics meant that coverage using the same transmission power differed significantly, translating into the need for less infrastructure. NIST, *700 MHz Band Channel Propagation Model*, <http://www.nist.gov/itl/antd/emntg/700mhz.cfm> (visited Feb. 10, 2012).

²⁵ *Fifteenth Annual Report* at para. 295.

Italy, bidders valued 800 MHz spectrum at 15 to 30 times more than equally-sized lots of 2.6 GHz spectrum.⁹⁶ Similar disparities are reflected in secondary market valuations.⁹⁷

All this means that “[t]wo licensees may hold equal quantities of bandwidth but nevertheless hold very different spectrum assets.”⁹⁸ The logical consequence of this economic reality is that the spectrum screen should be based on weighted spectrum.

While this Commission previously has declined to “differentiate[] among [spectrum] bands based on specific propagation characteristics or purported distinctions in trading value,”⁹⁹ conditions have changed and so has its willingness to entertain such a nuanced analysis.¹⁰⁰ It has recognized the disparate value of spectrum by evaluating spectrum on either side of the 1 GHz divide. In both the Fifteenth Annual Report and in *AT&T-Qualcomm*, the Commission found it “prudent to inquire about the potential impact of [an acquirer’s] aggregation of spectrum below 1 GHz as part of the Commission’s case-by-case analysis.”¹⁰¹

The Commission established the screen to “ensure that we did not exclude from further scrutiny any geographic areas in which any potential for anti-competitive effects exist.”¹⁰² The

⁹⁶ Cramton Decl. at para. 18. Because of the recognized economic differences among bands, German regulators have placed restrictions on the amount of sub-1 GHz spectrum (in the 800 MHz band) that any mobile service provider could obtain, depending on how much sub-1 GHz spectrum a particular mobile provider already held. *See* Decision of the President’s Chamber of the Federal Network Agency for Electricity, Gas, Telecommunications, Post, and Railway, Oct. 16, 2009, at 6, 9, *available at* http://www.bundesnetzagentur.de/cae/servlet/contentblob/138364/publicationFile/3682/DecisionPresidentChamberTenor_ID17495pdf.pdf. Many other national regulators have adopted band-specific spectrum competition policies. Cramton Decl. at para. 25.

⁹⁷ Cramton Decl. at para. 29.

⁹⁸ *Fifteenth Annual Report* at para. 290 (emphasis added).

⁹⁹ *Sprint-NextelClearwire Order* at para. 63.

¹⁰⁰ *See, e.g., AT&T-Qualcomm Order* at paras. 43-51.

¹⁰¹ *AT&T-Qualcomm Order* at para. 49; *see also Fifteenth Annual Report* at para. 307.

¹⁰² *AT&T Wireless-Cingular Order* at para. 112.

unweighted approach clearly does not achieve this goal – at the extreme, it would not find “any potential for anti-competitive effects” if a single carrier acquired *all* of the Cellular, SMR, and 700 MHz spectrum in a given market, as long as that carrier did not hold any higher-frequency spectrum.¹⁰³ Using a weighted spectrum approach based on actual economic value would refine the screen results and more accurately identify those markets to which the Commission should direct its attention.¹⁰⁴

To account for the unequal values of spectrum, the Commission could accord different weight to the frequency bands in the spectrum screen. It could rely on several analytical studies performed by the investment community to set the weight for the spectrum.¹⁰⁵ Based upon the analysis set forth in the accompanying Declaration of Peter Cramton (Exhibit C hereto), T-Mobile proposes that the Commission initially adopt the following relative weights, based on currently available estimates of market value:¹⁰⁶

¹⁰³ The total Cellular, SMR, and 700 MHz spectrum allocations total 134 MHz, below the level of 145 MHz at which the Commission has begun to consider potential competitive harm. Cramton Decl. at paras. 14 and 32.

¹⁰⁴ Cramton Decl. at paras. 26 and 37.

¹⁰⁵ See, e.g., Coleman Bazelon, *The Economic Basis of Spectrum Value: Pairing AWS-3 with the 1755 MHz Band Is More Valuable than Pairing It with Frequencies from the 1690 MHz Band*, The Brattle Group, Inc., at 9 (Apr. 11, 2011), available at http://www.brattle.com/_documents/UploadLibrary/Upload938.pdf; Philip Cusick, CFA, Richard Choe, & Derya Erdemli, CFA, *Telecom Services & Toward; Spectrum Valuation Overview – Carrier by Carrier Base-Case Spectrum Value Across Wireless Industry*, J.P. Morgan Securities LLC, North America Equity Research, at 5 (Nov. 30, 2011); Elizabeth Woyke, *Telecom Deals Ratchet Up Price Of Wireless Spectrum*, FORBES, Dec. 2, 2011, available at <http://www.forbes.com/sites/elizabethwoyke/2011/12/02/telecom-deals-ratchet-up-price-of-wireless-spectrum/>.

¹⁰⁶ Cramton Decl. at para. 31. The specific value weights would have to be adjusted from time to time based on current market conditions.

Table 3

Band	Value weight
Cellular	1.7
700 MHz	1.5
SMR	1.5
AWS/PCS	.75
BRS	.20

Applying a screen based on value-weighted spectrum holdings shows that the proposed Transactions would result in Verizon Wireless holding one-third or more of the spectrum by value in 12 of the top 25 CMAs.¹⁰⁷ The benefits of capturing the economic impact of spectrum concentration much more accurately with this approach should justify the slight additional complexity of the review.

V. THE POTENTIAL HARMS CLEARLY OUTWEIGH APPLICANTS' CLAIMED BENEFITS

In an effort to meet their burden of proving that the Transactions would promote the public interest, Applicants describe at length the public demand for mobile services, and the need for spectrum to satisfy that demand, along with the public interest in encouraging economically efficient use of spectrum.¹⁰⁸ Applicants have answered the wrong question. In this proceeding, the Commission will not have to decide in the abstract whether there is *some* potential public benefit to deploying spectrum to satisfy the growing public demand for mobile service, and especially for mobile broadband – no one doubts that deploying more spectrum in theory could produce *some* benefit. Rather, Applicants must demonstrate that the incremental benefits of these *specific* proposed Transactions are sufficient to outweigh the substantial public interest harm of increasing the dominant spectrum position of Verizon Wireless and foreclosing expansion by smaller competitors. They have not even purported to do that.

¹⁰⁷ Cramton Decl. at para. 36, Fig. 6.

¹⁰⁸ *SpectrumCo Public Interest Statement* at 5-19.

In fact, because Verizon Wireless has substantial spectrum holdings that are not currently being fully utilized and will not be fully utilized in the near future,¹⁰⁹ it is doubtful that even the very generalized public interest benefits touted by Applicants will actually be realized. Verizon Wireless concedes that it does not need and will not likely use this spectrum in the near term.¹¹⁰ Yet Applicants also acknowledge the Commission's forecast that if additional spectrum is not made available in the near term, mobile data demand will likely exceed capacity in the industry as a whole by 2014.¹¹¹ T-Mobile will certainly put this spectrum to use much sooner compete with Verizon Wireless, and it is very likely that other prospective purchasers would do the same. In short, since Verizon Wireless has no need for this spectrum in the near term, the most immediate effect of the Transactions will be to foreclose competitors from obtaining a necessary input to enable their continued competitiveness. It thus will deprive consumers of the best utility of the spectrum (and the related benefits of robust competition), as well as forcing Verizon Wireless' competitors to bear the full brunt of the impending capacity constraint. Clearly, this result would contravene the public interest.

That Verizon Wireless may make use of this spectrum at some point in the future is no justification for an acquisition that potentially has the more immediate effect of depriving rivals of this scarce and essential resource, thereby hindering them from continuing to evolve competitively and denying the public the benefits of greater competition in services, pricing and innovation. As detailed in the attached declaration of Neville R. Ray, T-Mobile's Chief Technology Officer, Verizon Wireless already has unused spectrum in the AWS band and underused spectrum in the 700 MHz band, a luxury not shared by smaller competitors like T-Mobile. Carriers like T-Mobile, which face significantly more stringent constraints than Verizon Wireless, cannot

¹⁰⁹ Chevalier Decl. at para. 35.

¹¹⁰ *SpectrumCo Public Interest Statement* at 13.

¹¹¹ *Id.* at 9.

afford to let spectrum sit idle until some future time. Accordingly, T-Mobile has developed techniques for maximizing the efficient use of *all* of its spectrum. This process is complex and resource-intensive, but frees up portions of the existing spectrum for new services, including 4G broadband.¹¹² By contrast, Verizon Wireless has little incentive to engage in these efficiency-enhancing techniques due to its abundant spectrum holdings. Restoring the availability of this spectrum for others rather than placing it all in Verizon Wireless' hands would result in more robust competition and better service and devices for consumers through all providers.

Applicants also claim that the "cost of not securing enough spectrum may be higher prices, poorer service, lost productivity, loss of competitive advantage and untapped innovation."¹¹³ However, by foreclosing more constrained rivals of Verizon Wireless from obtaining needed spectrum, these Transactions will create the very scenario Applicants warn against. By simultaneously weakening these competitors and adding to Verizon Wireless' surplus of warehoused spectrum, Verizon Wireless' incentive to innovate more spectrally efficient technologies will be doubly reduced and its competitors' ability to compete robustly in the provisions of new products and services for consumers will be undercut.

In sum, allowing Verizon Wireless to add more spectrum to its warehouse will not produce any immediate public benefits, and actually would result in less efficient use overall of this scarce resource. Even if there were some modest eventual benefit, it would not be sufficient to overcome the very high probability of significant competitive harm resulting from the Transactions.

¹¹² Ray Decl. at 4.

¹¹³ *SpectrumCo Public Interest Statement* at 6-7 (quoting *National Broadband Plan* at 85).

VI. CONCLUSION

For the foregoing reasons, the Commission should deny the Applications.

Respectfully submitted,

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Dated: February 21, 2012

REDACTED - FOR PUBLIC INSPECTION

EXHIBIT A

Declaration of Judith Chevalier

**DECLARATION
OF
PROFESSOR JUDITH CHEVALIER**

February 21, 2012

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I. INTRODUCTION

A. Assignment

1. I, Judith Chevalier, submit this declaration on behalf of T-Mobile USA, Inc. (“T-Mobile”) in Docket WT 12-4. I have been retained to provide expert analysis and testimony, if necessary, regarding two related transactions involving transfers of spectrum between SpectrumCo, LLC (“SpectrumCo”), Cox TMI Wireless, LLC (“Cox”) and Cellco Partnership d/b/a Verizon Wireless (“Verizon”). Specifically, I have been asked to examine the effects of the proposed transaction on consumers of wireless services.
2. I am the William S. Beinecke Professor of Economics and Finance at the Yale School of Management. My research is in the areas of industrial organization and corporate finance. At Yale, I teach or have taught courses in Competition, Competitive Strategy, Technology Strategy, and the Economics of the Information Economy. I am a co-editor of the Rand Journal of Economics, and a former co-editor of the American Economic Review. I am a former member of the executive committee of the American Economic Association and an elected member of the American Academy of Arts and Sciences. I have given invited presentations at many institutions including the Department of Justice, the Federal Trade Commission, and the Federal Communications Commission.
3. My CV is attached as Appendix A.

II. SUMMARY OF CONCLUSIONS

4. The summary of my conclusions is as follows:
 - a. It is a long-standing goal of the Federal Communications Commission (“FCC” or “Commission”), in its review of mergers and other spectrum transactions in the wireless industry, to discourage anticompetitive conduct and ensure that incentives are maintained for innovation and efficiency in the mobile services marketplace. Additionally, the FCC has been most concerned about spectrum that is available in the near term and suitable for mobile voice or broadband services.

- b. Some important economic factors in the spectrum market are difficult to analyze solely through the formulaic application of a “spectrum screen.” The FCC has made clear that these important economic factors must be measured and considered on a case-by-case basis.
- c. A dominant firm can face economic incentives to acquire and hoard a scarce asset, in order to disadvantage rival firms. An examination of the welfare effects of any spectrum transaction should consider whether the acquiror faces incentives to hoard spectrum.
- d. Not all spectrum is created equal. Spectrum in different bands is of different quality. Thus, in evaluating a transaction, the FCC must consider the type of spectrum involved. A straightforward evaluation using the current spectrum screen would suggest that holders of primarily high-quality spectrum have less market power than they actually have. Furthermore, the pattern of competitors’ existing infrastructure as it relates to the particular spectrum bands affects the competitive impact of a spectrum transaction.
- e. The spectrum transfer under consideration in this case poses concerns because of Verizon’s substantial existing holdings of high-quality spectrum and the incentives it would face to hoard the spectrum newly acquired from SpectrumCo and Cox.
- f. Verizon has clearly stated that its current spectrum holdings are sufficient for its business plan; the company has substantial spectrum holdings that are not currently being fully utilized and will not be fully utilized in the near future.
- g. The transaction between SpectrumCo, Cox and Verizon, if consummated, would eliminate the potential opportunity for other market participants, including T-Mobile, to acquire valuable spectrum.

III. BACKGROUND

A. Wireless Industry Background

- 5. The wireless industry consists of a variety of carrier types that provide customers with wireless services. The four largest wireless carriers, on a subscriber basis, operate